DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: UNNAMED PD (MUSQUASH BK)	Lake Area (ha): 21.33
Town: HUDSON	Maximum depth (m): 3.0
County: Hillsborough	Mean depth (m): 1.0
	Volume (m^3) : 213500
Latitude: 42°43'10" N	Relative depth: 0.6
Longitude: 71°23'43" W	Shore configuration: 1.47
Elevation (ft): 140	Areal water load (m/yr): 21.86
Shore length (m): 2400	Flushing rate (yr^{-1}) : 21.90
Watershed area (ha): 971.2	P retention coeff.: 0.47
% watershed ponded: 0.4	Lake type: natural

BIOLOGICAL:	8 February 1993	3 September 1992
DOM. PHYTOPLANKTON (% TOTAL) #	FILAM. BL-GR SPP. 35%	DINOBRYON 25%
#	PERIDINIUM 20%	CERATIUM 25%
#	(ALL ALGAE SPARSE)	MICROCYSTIS 10%
PHYTOPLANKTON ABUNDANCE (cells/mL		1225
CHLOROPHYLL-A (µg/L)		75.85
DOM. ZOOPLANKTON (% TOTAL) #	SYNCHAETA 21%	NAUPLIUS LARVA 44%
#	CILIATE SPP. 21%	KELLICOTTIA 21%
#	3	BOSMINA 9%
ROTIFERS/LITER	19	197
MICROCRUSTACEA/LITER	14	482
ZOOPLANKTON ABUNDANCE (#/L)	42	733
VASCULAR PLANT ABUNDANCE		Very abundant
SECCHI DISK TRANSPARENCY (m)		1.0
BOTTOM DISSOLVED OXYGEN (mg/L)	2.3	0.2
BACTERIA (E. coli, #/100 ml) #	1	9
#	2	
#	3	

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None

Anoxic volume (m^3) : 34000

CHEMICAL: Lake: UNNAMED PD (MUSQUASH BK)

Town: HUDSON

	10mil Mosson				
	8 Febru	8 February 1993		3 September 1992	
DEPTH (m)	1.5		1.5		
pH (units)	6.4		6.4		
A.N.C. (Alkalinity)	13.6		17.3		
NITRATE NITROGEN	0.11		< 0.02		
TOTAL KJELDAHL NITROGEN	0.49		0.65		
TOTAL PHOSPHORUS	0.023		0.054		
CONDUCTIVITY (µmhos/cm)	122.6		81.2		
APPARENT COLOR (cpu)	55		130		
MAGNESIUM			1.06		
CALCIUM			6.5		
SODIUM			6.8		
POTASSIUM			0.58		
CHLORIDE	22		12		
SULFATE	8		3		
TN : TP	26		12		
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	5	6	6	17	Eutro.

COMMENTS:

- 1. This is a small (less than 1 acre) area of open water located within a marsh along Musquash Brook. It is classified as a wetland and not a pond in the lakes database.
- 2. If classified as a pond, this wetland would be the most eutrophic of the unstratified ponds classified to date. It received one trophic point less than the maximum possible.
- 3. Soundings were not taken and a bathymetric chart was not constructed because of the shallowness of the pond and the plant abundance. The map on the following page depicts the area of open water and the location of the deepest spot observed (10 feet).

FIELD DATA SHEET

LAKE: UNNAMED PD (MUSQUASH BK) TOWN: HUDSON

DATE: 09/03/92

WEATHER: RAIN; CALM

DEPTH (M)		TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION	
	0.1	18.1	2.2	24 %	
	1.0	18.0	2.2	24 %	
	2.0	18.0	0.2	2 %	
	2.5	17.4	0.2	2 %	
	4-14-14-14-14-14-14-14-14-14-14-14-14-14				
	· · · · · · · · · · · · · · · · · · ·				

SECCHI DISK (m): 1.0

COMMENTS:

The dissolved oxygen was unexplainably low in the

BOTTOM DEPTH (m): 3.0

surface waters.

TIME: 1445

*Dissolved oxygen values are in mg/L

AQUATIC PLANT SURVEY

LAKE: UNNAMED PD (MUSQUASH BK) TOWN: HUDSON DATE: 09/03/92 PLANT NAME Key ABUNDANCE GENERIC COMMON N Nymphaea White water lily Abundant Y Nuphar Yellow water lily Abundant P Pontederia cordata Pickerelweed Abundant L Lemnaceae Duckweed family Common Wolffia Watermeal Common В Brasenia schreberi Water shield Abundant U Utricularia Bladderwort Abundant C Lysimachia terrestris Swampcandle Common D Decodon verticillatus Swamp loosestrife Common Pondweed Abundant Potamogeton

OVERALL ABUNDANCE: Very abundant

GENERAL OBSERVATIONS:

1. This is a wetland with very abundant plant growth throughout. It has a small area of open water in the middle.